

IN THE CLAIMS:

1-20. (cancelled)

21. (new) A method for control of a point in time of a measurement of toner concentration in a developer mixture comprising toner and carrier,
5 comprising the steps of:

mixing the developer mixture by a bucket roller provided with buckets situated in a mixing device;

arranging a toner concentration sensor for measurement of the toner concentration in the developer mixture adjacent to the bucket roller;

10 arranging magnet bars on the buckets of the bucket roller and interrupting the magnet bars when they are in a region adjacent to the toner concentration sensor except for one of the magnet bars which is uninterrupted when it is in the region adjacent to the toner concentration sensor;

with the toner concentration sensor emitting a sensor signal that

15 upon passage of the bucket with the uninterrupted magnet bar, exhibits a first pulse-shaped spike with a larger amplitude caused by the uninterrupted magnet bar,

exhibits further pulse-shaped spikes of smaller amplitude upon passage of the further buckets with the interrupted magnet bars, and

20 exhibits a value indicating the toner concentration between the pulse-shaped spikes;

determining a point in time of occurrence of the first pulse-shaped spike in the sensor signal; and

25 implementing a measurement of the toner concentration in a measurement window that lies after occurrence of the first pulse-shaped spike of the sensor signal in a region of the sensor signal that lies between the spikes caused by the buckets.

22. (new) A method according to claim 21 in which a temporal position of the pulse-shaped spike is indicated when the sensor signal has a largest rise.

23. (new) A method according to claim 22 in which, to record a
5 signal curve of the sensor signal:

successive individual measurements of the sensor signal are implemented at a same time interval,

a difference of successive measurement values acquired via the individual measurements is generated, and

10 a highest determined difference value indicates a position of the pulse-shaped spike.

24. (new) A method according to claim 23 in which the temporal position of the pulse-shaped spikes is indicated when a curve generated from the difference values exceeds a predetermined threshold.

15 25. (new) A method according to claim 21 in which a temporal position of the pulse-shaped spikes is indicated when the pulse-shaped spikes of the sensor signal exceed a predetermined threshold or reach a highest value.

20 26. (new) A method according to claim 25 in which the temporal position of the pulse-shaped spikes is indicated when a combination rise/amplitude exceeds a threshold.

27. (new) A method according to claim 21 in which, upon occurrence of the first pulse-shaped spike, a measurement window is placed after a time period calculated from a temporal position of the first pulse-shaped spike.
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28. (new) A method according to claim 21 in which a measurement window is placed such that, after passage of the bucket with the uninterrupted

magnet bar, at least one further bucket passes by the toner concentration sensor.

29. (new) A method according to claim 21, in which a measurement window is opened independent of a sensor signal curve for the case that no pulse-shaped spike has occurred in the sensor signal during a rotation of the bucket roller.

30. (new) A method according to claim 29 in which an error counter is incremented when no pulse-shaped spike is determined in the sensor signal during a revolution of the bucket roller, and an error counter is decremented again when a pulse-shaped spike occurs again in a next revolution.

31. (new) A method according to claim 13 in which an error signal is emitted when a counter value of the error counter exceeds a predetermined counter value.

32. (new) A method according to claim 21 in which the mixing device is arranged in a developer station for an electrophotographic printer or copier.

33. (new) A method for control of a point in time of a measurement of toner concentration in a developer mixture comprising toner and carrier, comprising the steps of:

mixing the developer mixture by a bucket roller provided with buckets situated in a mixing device;

with a toner concentration sensor arranged adjacent to the bucket roller emitting a signal indicating the toner concentration in the developer mixture, said sensor signal

exhibiting pulse-shapes spikes upon passage of the buckets,
and

exhibiting a value indicating the toner concentration between the pulse-shaped spikes;

arranging a magnet on a shaft of the bucket roller and arranging a Hall sensor adjacent to the magnet and to the bucket roller, the Hall sensor
5 emitting a trigger signal when the magnet passes by the Hall sensor; and

implementing the measurement of the toner concentration controlled by the trigger signal in a measurement window that lies in a region of the sensor signal that lies between the spikes caused by the buckets.

34. (new) A method according to claim 33 in which a time interval
10 between occurrence of the trigger signal and occurrence of a next pulse-shaped spike in the sensor signal is determined once before a beginning of the measurement event, and the measurement occurs when a sum from said time interval and a predetermined delay period has elapsed.

35. (new) A method according to claim 34 in which magnet bars are
15 arranged on the buckets of the bucket roller, and a respective magnet bar is interrupted in each bucket when it is in a region adjacent to the toner concentration sensor, except for one of the bars which is uninterrupted when it is in said region of the sensor; and

in which the toner concentration sensor emits a sensor signal that,
20 upon passage of the bucket with the uninterrupted magnet bar, exhibits a first pulse-shaped spike of larger amplitude that is used to determine the time interval between occurrence of the trigger signal and occurrence of the first pulse-shaped spike.

36. (new) A method according to claim 35 in which a temporal
25 position of the pulse-shaped spike is indicated when the sensor signal has a largest rise.

37. (new) A method according to claim 36 in which, to record a signal curve of the sensor signal,

successive individual measurements of the sensor signal are implemented at a same time interval,

a difference of successive measurement values acquired via the individual measurements is generated, and

5 a highest determined difference value indicates position of the pulse-shaped spike.

38. (new) A method according to claim 37 in which the temporal position of the pulse-shaped spikes is indicated when a curve generated from the difference values exceeds a predetermined threshold.

10 39. (new) A method according to claim 33 in which the temporal position of the pulse-shaped spikes is indicated when the pulse-shaped spikes of the sensor signal exceed a predetermined threshold or a highest value.

15 40. (new) A method according to claim 39 in which the temporal position of the pulse-shaped spikes is indicated when a combination rise/amplitude exceeds a threshold.

20 41. (new) A method according to claim 33, in which, upon occurrence of a first pulse-shaped spike, a measurement window is placed after a time period calculated from a temporal position of the first pulse-shaped spike.

42. (new) A method according to claim 35 in which a measurement window is placed such that, after passage of the bucket with the uninterrupted magnet bar, at least one further bucket passes by the toner concentration sensor.

25 43. (new) A method according to claim 33, in which a measurement window is opened independent of a curve of the sensor signal for the case that no pulse-shaped spike has occurred in the sensor signal during a rotation of the bucket roller.

44. (new) A method according to claim 43 in which an error counter is incremented when no pulse-shaped spike is determined in the sensor signal during a revolution of the bucket roller, and an error counter is decremented again when a pulse-shaped spike occurs again in a next
5 revolution.

45. (new) A method according to claim 44 in which an error signal is emitted when a counter value of the error counter exceeds a predetermined counter value.

46. (new) A method according to claim 33 in which the mixing
10 device is arranged in a developer station for an electrophotographic printer or copier.

47. (new) An arrangement for control of a point in time of a measurement of a toner concentration in a developer mixture comprising toner and carrier, comprising:

15 a bucket roller arranged in a mixing device for the developer mixture, the developer mixture being stirred with buckets of the bucket roller;

a toner concentration sensor arranged adjacent to the bucket roller for measurement of the toner concentration in the developer mixture;

20 identical bars being provided on buckets of the bucket roller, respective magnetic bars in each bucket being interrupted when they are in a region adjacent to the toner concentration sensor except for one magnetic bar which it is uninterrupted in said region; and

the toner concentration sensor emitting a sensor signal indicating the toner concentration, the sensor signal exhibiting, upon passage of the bucket
25 with the uninterrupted magnet bar, a first pulse-shaped spike from which a measurement window is derived in which the toner concentration is measured.

48. (new) An arrangement for control of a point in time of a measurement of toner concentration in a developer mixture comprising toner and carrier, comprising:

5 a bucket roller in a mixing device for the developer mixture, buckets of the bucket roller stirring the developer mixture;

a toner concentration sensor that emits a sensor signal dependent on the toner concentration arranged adjacent to the bucket roller, said sensor signal

10 exhibiting pulse-shaped spikes upon passage of the buckets, and

exhibiting a value indicating the toner concentration between the pulse-shaped spikes;

15 a magnet arranged on a shaft of the bucket roller and a Hall sensor arranged adjacent to the magnet and to the bucket roller, said Hall sensor emitting a trigger signal when the magnet passes by the Hall sensor; and

the measurement of the toner concentration by the toner concentration sensor occurring controlled by the trigger signal in a measurement window that lies in a region of the sensor signal that lies between the spikes caused by the buckets.

20 49. (new) An arrangement according to claim 48 further comprising: magnetic bars arranged on the buckets of the bucket roller, and the respective magnetic bars are interrupted in each bucket when it is in a region adjacent to the toner concentration sensor except for one magnetic bar which is uninterrupted in said region;

25 the toner concentration sensor emitting a sensor signal that, upon passage of the bucket with the uninterrupted magnet bar exhibits a first pulse-shaped spike; and

the first pulse-shaped spike is determined and a measurement window is established dependent on a time interval between the trigger signal and the

occurrence of the first pulse-shaped spike of the sensor signal, delayed by a delay period.

50. (new) An arrangement according to claim 49 in which the magnet and the Hall sensor are arranged outside of a mixing region of the
5 mixing device.

51. (new) An arrangement according to claim 48 which is for a printer or copier.